

# Preoperative Nursing Management



Presented by :

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# ILOs

- At the end of this lecture students will be able to:
- 1- understand the classification of nursing care: preoperative-intraoperative-postoperative
- 2- differentiate between types of surgery
- 3- identify the Special considerations and therapeutic approach in the preoperative, intraoperative, and postoperative phases.
- 4- Illustrate teaching strategies preoperatively, types of anesthesia, surgical team, complications Intra & postoperative
- 5- list nursing interventions for postoperative complications

## **Preoperative phase:**

### *Definition:*

from the time **the decision is made** for surgical intervention to the transfer of the patient to the operating room:

### *Types of Surgery:*

1. Optional—Surgery is scheduled completely at the preference of the patient (eg, cosmetic surgery).
2. Elective—The approximate time for surgery is at the convenience of the patient; failure to have surgery is not catastrophic (eg, superficial cyst).
3. Required—The condition requires surgery **within a few weeks** (eg, eye cataract).
4. Urgent—The surgical problem requires attention **within 24 to 48 hours** (eg, cancer).
5. Emergency—Situation requires **immediate** surgical attention without delay (eg, intestinal obstruction).



# Common surgical incisions

QUADRANTS		REGIONS	
Right upper quadrant	R.U.Q. L.U.Q.	Right hypochondriac	Epigastric
Right lower quadrant	R.L.Q. L.L.Q.	Right lumbar	Left hypochondriac
		Hypogastric	Left lumbar
		Right iliac	Umbilical
			Left iliac
			Pubic
			Femoral region
INCISIONS		Incision Site	Type of Surgery
Subcostal	Paramedian	Subcostal	Gallbladder and biliary tract surgery
Right rectus	Transverse	Paramedian	Right side-biliary tract, gallbladder
McBurney	Midline	Transverse	Left side-splenectomy, gastrectomy, hiatal hernia repair
	Pfannenstiel	Rectus	Gastrectomy
			Right side-appendectomy, small bowel resection
			Left side-sigmoid colon resection
		McBurney	Appendectomy
		Midline (lower)	Female reproductive tract
		Pfannenstiel	Gynecologic surgery



## **Ambulatory surgery :**

### Definition :

(day surgery, in-and-out surgery, outpatient surgery) is becoming a common occurrence for certain types of procedures. The **office nurse** is in a key position to assess patient status; plan perioperative experience; and monitor, instruct, and evaluate the patient.

### Advantages

**Reduced cost** to patient, hospital, and insuring and governmental agencies

Reduced **psychological** stress to the patient

Less evidence of hospital-acquired **infection**

Less **time** lost from work by patient; minimal disruption of patient's activities and family life

### Disadvantages

Less time to **assess** patient and perform preoperative **teaching**

Less time to establish **rappor**t between patient and health personnel

Less opportunity to assess for late postoperative **complications**.

This responsibility is primarily with the patient although telephone and home care follow-up is possible.



# Continue . . .

## Patient Selection

Criteria for selection include:

Surgery of **short duration** (15–90 minutes)

**Non infected conditions**

Type of operation in which **postoperative complications** are predictably **low**

**Age is usually not a factor** although too risky in a premature infant

**Types of frequently performed procedures:**

Ear-nose-throat (**ENT**; tonsillectomy, adenoidectomy)

**Gynecology** (diagnostic laparoscopy, tubal ligation, dilatation and curettage)

**Orthopedics** (arthroscopy, fracture or tendon repair)

Oral surgery (wisdom **teeth** extraction, dental restorations) .

**Urology** (**circumcision**, cystoscopy, vasectomy)

**Ophthalmology** (cataract)

**Plastic surgery** (rhinoplasty, blepharoplasty, face lift)

**General surgery** (laparoscopic **hernia repair**, lap-assisted cholecystectomy, biopsy, cyst removal)



## Ambulatory Surgery Settings :

Performed in a variety of settings.

traditional hospital operating rooms.

hospital affiliated or independently owned and operated.

health care provider's **office**.



## Preparation for surgery

### 1- informed consent :

An informed consent (operative permit) is a form signed by the patient, and witnessed, giving permission to have a surgical procedure performed by the patient's health care provider.

This is a legal and ethical requirement.

Its responsibility of nurses to ask patients to permit and physicians responsibility to provide pirate information may be provided by written , audiovisuals materials .



# Purposes of consent form

1. To ensure that the patient understands the nature of the treatment, including potential complications
2. To indicate that the patient's decision was made without pressure
3. To protect the patient against unauthorized procedures
4. To protect the surgeon and hospital against legal action by a patient who claims that an unauthorized procedure was performed

# informed consent circumstances:

invasive procedures

procedures require sedation

non surgical procedures ( arteriography)

involving radiation

## Adolescent Patient and Informed Consent

I. An emancipated(liberated متحرر) minor is usually recognized as one who is not subject to parental control:

a. Married minor

b. Those in military service

c. College student under 18 but living away from home

d. Minor who has a child

2. Most states have laws regarding treatment of minors.

3. Standards for informed consent are the same as for adults.



# Obtaining Informed Consent

## **1. Before signing an informed consent, the patient should:**

- a. Be told in clear and **simple terms** by the surgeon or other appropriate personnel (eg, anesthesiologist) what is to be done.
- b. Be aware of the risks, possible **complications**, disfigurement, and removal of parts.
- c. Have a general idea of **what to expect** in the early and late postoperative periods.
- d. Have a general idea of the **time frame** involved from surgery to recovery.
- e. Have an opportunity to **ask any questions**.
- f. Sign a separate form for each procedure or operation.

**2. Written permission is best and is legally acceptable.**

**3. Signature is obtained with the patient's complete understanding of what is to occur; it is obtained before the patient receives sedation and is secured without pressure.**



## Obtaining Informed Consent cont ....

4. A **witness** is desirable—nurse, health care provider, or other authorized person.
5. In an emergency, permission **via telephone or telegram/email is acceptable.**
6. For a **minor** (or a patient who is **unconscious** or **irresponsible**), permission is required from a **responsible member of the family—parent or legal guardian.**
7. For married minor, permission from the **husband / wife is acceptable.**
8. If the patient is **unable to write**, an “**X**” to indicate his sign is acceptable if there are two signed witnesses



## **2- Assessment of health factors that affect patients preoperatively:**

**before any surgical treatment is initiated the nurse must obtain :**

health history and physical examination ( clinical examination and diagnostic test ).

Nutrition and fluid status

Drugs and alcohol use

Respiratory status

Cardiovascular status

Hepatic and renal status

Endocrine status

Immune status

Previous medication use

Psychosocial factors

Spiritual status



## **Special considerations in preoperative phase :**

### **1- the ambulatory surgery patient :**

- nurse must **quickly** and comprehensively assess and anticipate the patients needs and planning for discharge also.

### **2- Elderly patients :**

1. **Reactions to injury are not as obvious and are slower in appearing ( hip replacement )**

2. **The cumulative effect of medications is greater in the older person than it is in younger people.**

3. **Medications such as morphine and barbiturates in the usual dosages may cause confusion and disorientation; more noticeable respiratory depression than with the younger patient.**

4. **Aging process and systematic affect (cardiovascular , GI disturbance , malnutrition , arthritis, and mouth problems**

5. **symptoms reporting ( fear of diagnoses).**



## Therapeutic Approach :



1. Maintain **increased diligence** in nursing assessment.
2. **Avoid fluid overload** (oral, parenteral, blood products) because of possible myocardial infarction, angina, congestive failure, and pulmonary edema.
3. **Prevent prolonged immobilization**, which results in **venous stasis**. Monitor for potential deep vein thrombosis DVT or pulmonary embolus PE.
4. Encourage **change of position** but avoid sudden exertion.
5. Use **antiembolic hose** and **pneumatic stockings** intraoperatively and postoperatively.
6. Note evidence of **hypoxia** and initiate therapy.



### **3- obese patients :**

1. Increases **difficulty** involved in **technical** aspects of performing **surgery** (eg, **sutures are difficult to tie** because of fatty secretions); wound dehiscence is greater. شق الجرح كبير
2. Increases likelihood of **infection** because of lessened resistance.
3. Increases postoperative **pneumonia** and other pulmonary complications because greatly obese patients chronically hypoventilate.
4. Increases demands on the heart, leading to cardiovascular compromise.
5. Increases possibility of renal, biliary, hepatic, and endocrine disorders.
6. Decreases ability to conserve heat due to radiant heat loss.
7. Has altered response to many drugs and anesthetics.



## Therapeutic Approach :

1. Encourage weight reduction if time permits.
2. Consult with health care provider about obtaining preoperative pulmonary function test and arterial blood gases (to assess baseline pulmonary status).
3. Anticipate postoperative obesity-related complications, especially for respiratory complications.
4. splint abdominal incisions when moving or coughing; for large patients, sling a drawsheet around the patient's back and pull ends firmly together in front.
5. Be aware that some drugs should be dosed according to ideal body weight versus actual weight, or an overdose may occur (eg, digoxin, Xylocaine, aminoglycosides, and theophylline).
6. Avoid IM injections in morbidly obese individuals (IV or SC preferred).
7. Never attempt to move an impaired patient without assistance or without using proper body mechanics.
8. Obtain dietary consultation early in patient's postoperative course.



## 4- patients with disabilities :

- need for **assistive devices**, modification, during mobilization and transferring.
- Assistive device like : hearing aids, eyeglasses , brace, prostheses,



## **5- patients undergoing emergency surgery :**

### **Patient education:**

- Preoperative patient **education** may be **offered** through **conversation, discussion, the use of audiovisual aids, demonstrations, and return demonstrations.**
- It is designed to help the patient **understand the surgical experience to minimize anxiety** and promote full recovery from surgery and anesthesia.
- The educational program may be initiated **before hospitalization**
- The **perioperative nurse** can assess the patient's **knowledge base** and use this information in developing a **plan** for an **uneventful perioperative course.**



# Teaching Strategies

## Obtain a Data Base

1. Determine what the patient already knows or wants to know, reading the patient's chart, by interviewing the patient, and by communicating with the health care provider & family
2. Ascertain patient's psychosocial adjustment to impending surgery.
3. Determine cultural or religious health beliefs and practices, such as refusal of blood transfusions, burial of amputated limbs within 24 hours.

## Use Audiovisual Aids if Available

1. Videotapes
2. Booklets, brochures, and models
3. Demonstrate any equipment that will be specific for the particular patient. Examples:

Drainage equipment, Monitoring equipment, Side rails, Incentive spirometer, Ostomy bag



## General Instructions:

### A. Diaphragmatic Breathing

This is a mode of breathing in which the dome of the diaphragm is flattened during inspiration, resulting in enlargement of the upper abdomen as air rushes into the chest. During expiration, abdominal muscles and the diaphragm relax. It is an effective relaxation technique.

Instruct the patient to:

1. Assume bed position similar to that most likely to be used postoperatively (**semi-Fowler's**).
2. **Place both hands over lower rib cage**; make a loose fist and rest the flat surface of the fingernails against the chest (to feel chest movement).
3. Exhale gently and fully
4. Inhale deeply through mouth and nose; permit abdomen to rise as lungs fill with air.
5. Hold this breath through a count of.
6. Exhale and let all air out through mouth and nose.
7. Repeat 15 times with a brief rest following each group of five.
8. Practice this twice each day preoperatively.



Continue....

## B. Incentive Spirometry



Preoperatively, the patient uses a spirometer to measure deep breaths (inspired air) while exerting maximum effort.

1. Postoperatively, the patient is encouraged to use the incentive spirometer about 10 to 12 times an hour.
2. Deep inhalations **expand alveoli**, which, in turn, **prevents atelectasis and other pulmonary complications**.



## C. Coughing Continue ...

Coughing promotes the **removal of chest secretions**. Instruct the patient to:

1. **Interlace the fingers** and place the hands **over** the proposed **incision** site; this will act as a splint during coughing and not harm the incision.
2. **Lean forward** slightly while sitting in bed.
3. **Breathe**, using the diaphragm as described under diaphragmatic breathing .
4. **Inhale** fully with the mouth slightly open.
5. Let out three or four sharp “**hacks**.”
6. Then, with mouth open, take in **a deep breath** and quickly give **one or two strong coughs**.
7. **Secretions** should be readily **cleared** from the chest to prevent respiratory complications (pneumonia, obstruction).



## **D. Turning ( mobility and active body movement .)**

Continue...

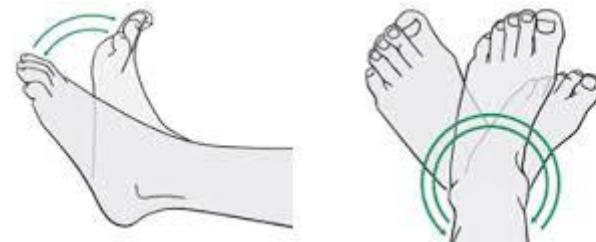
Changing positions from back to side-lying (and vice versa) stimulates circulation, encourages deeper breathing, and relieves pressure areas.

Note: Certain position changes may be contraindicated following some surgeries (eg, craniotomy and eye or ear surgery).



## E. Foot and Leg Exercises

Continue...



Moving the legs **improves circulation and muscle tone.**

1. Have the patient lie on **back**, instruct patient to bend the knee and raise the foot—hold it a few seconds, extend the leg, and lower it to the bed.
2. Repeat above for about five times with one leg and then with the other. Repeat the set five times every 3 to 5 hours.
3. Then have the patient **lie on side**; **exercise the legs by pretending to pedal a bicycle.**
4. Suggest the following **foot exercise**. Trace a complete circle with the great toe.



Continue...

### **E- Pain Management :**

- determine **acute and chronic pain** ( using **pain scale** )  
administration of postoperative **medication** to relieve pain .  
PCA( patient-controlled analgesia).

### **F- Cognitive coping strategies :**

to relieve anxiety, fear, achieve relaxation.

Use one of the most strategies:

**imagery**

**distraction**

**optimistic self – recitation**



## General preoperative nursing interventions

- 1- managing nutrition and fluids
- 2- preparing the bowel for surgery ( enemas, toilet, bedside commode)
- 3- preparing the skin:



## Immediate preoperative nursing intervention :

- 1- General principles ( gown, hair pin , head cap, jewelry. Assisting device( dental), voiding and urination . shaving , pathing. Urinary catherization if needed). Vital sign, blood preparing , diagnostic test.
- 2- Administration of preanesthetic medication ( 15-20 minute before surgery)
- 3- Maintaining the preoperative recording (checklist)
- 4- Transferring the patients to the presurgical area
- 5- Attending to family needs



# Nursing process

1- Assessment

2- Diagnoses :

Anxiety related to surgical experience

Fear related to perceived threat of the surgical procedures

Knowledge deficit

3- planning

4- intervention

5- evaluation

